

JUDGE JAMES G. SWAN, PORT TOWNSEND, WASH.

AUGUST 2, 1895.

(Interviewed by Richard Rathbun).

A. This is a splendid place for an aquaria here. If we had a building all we would have to do is to put up a little windmill and a tank and pump the salt water out of the bay, and there is all the machinery that would be needed, and the expense would be simply the cost of the aquaria. Now, how much do those things ~~xxxx~~ cost?

Q. Colonel McDonald himself is the one to tell that.

A. I want you to understand and report about the benefit of this particular place. You cannot have an aquaria of that kind in San Francisco to show any of these cold water fish, and here you can. You can show halibut here, and you can show cod fish and black cod, and the various salmon, all in full size and alive, by having this thing made big enough, and then there is a variety of marine plants and these different kinds of mollusks and sea anemones in variety, and a variety of other things It

could be made very attractive and useful to study, and then those enormous geoduc? clams, which are peculiar to Puget Sound.

Q. Where do you get it?

A. They are most gotten in Olympia, because the Indians dig for them there, but I have seen them here. The geoduc clam is called by a different name, but I cannot recall it. All those things I have in my office, I could exhibit those things, and those Natica? which ~~gax~~ grow to a big size, if given an aquaria with sand so they can burrough in and hide themselves. And at the same time, while it is interesting, it is useful as a matter of scientific inquiry as much as at Woods Hole, and you cannot have it at Seattle or Tacoma because the water is turbid there and you dont want to go to Cape Flattery because it is too far out of the way, and I find the water here is the same density and temperature as it is at Neah Bay, but when you go beyond here the influence of the rivers makes a difference, but there is nothing of the kind that comes into this bay that would interfere with it. I was talking with a gentleman who was quite interested in this aquarium business,

and he says, I think it would be a capital investment for someone to take hold of it here, because all these steamers that come here with their tourists if they dont wait over 15 minutes they would go in and give 25 cents to see that sight very often. You know it would be necessary to have some scientist in charge of it and there is no person here that I know of. I could have supervision of it all right, but to be the scientific man, I would not do it. Now, this aquaria business, I would like to have you think the matter over, and have a talk with Colonel McDonald about it. If you are going down to the Cape you can get more ideas, and it is a very good time of year to go down, and you will see all of the water products there, and we could have an aquaria here that would just show everything. Here is all this marine algae. We have all of the algae here. I have a book in my office about the gigantic kelp to show what a mistake Harvey made about it. I have made a drawing myself to show what the thing is and how it starts, and the biggest bulbs every I saw would not hold over a pint.

Q. Is there not a bigger species in

Alaska?

A. I dont know about its being any bigger. We have it here about 300 fathoms long. The way it grows, it does not grow right up 300 fathoms, but it starts in a strong current so that it keeps it down and after a while it gets up to the surface of the water, and sometimes it stretches along several hundred feet first. I have a record of a piece about 600 feet that drifted up at Neah Bay on the beach. That had 30 or 40 leaves, great long streamers that covered the water all over.

Q. Is there any of that having only one leaf?

A. No; not that I have ever seen. By-the way, I want to tell you how I started in to preserve this algae and make leather out of it. It was fine, but it wants a man with some knowledge, some chemical knowledge, and he would make something out of it. I had a newspaper man to print an article about it and presented it to General Harrison to show what it was.

Q. Does it have the tenacity of leather?

A. Oh, yes; it is very strong. The Indians use it for fish lines. I have

advanced with it until I found out how to make it look like leather, but I want to get something that will keep it in a soft condition all the time. I sent some to Victoria and they said, the book-binder said he believes it could be used to make ladies' pocket books and that kind of fancy work, and they became very much interested in it, and I wanted to get some young chemist there to take hold of it with me, and I said all you have to do is to come down on the beach here and you can get all you want, and try your ~~experiments~~ experiments. They dissolve this stuff with carbonate of soda; just put it in a tub and mascerate it and it turns into water. They use it in Japan and have used it for ages, and they make translucent window panes for the poor people's houses. A gentleman from Victoria said they made a mixture which is very sweet, and he was going to bring me over some. They were selling it in Victoria and he was going to bring me some over to show. So now there is an industry that can be started here if anybody will take hold of it. They made the sweet stuff from the kelp there, and are doing it now. And this formula was

sent to me by Prof. Baird?/ and the gentleman made a series of experiments and ascertained the value of it as food. That is a subject I want you to just think of. Of course you have the books in Washington on the subject and can refer to it there.

Q. Now, to go on to the fur seal; what tempted Mr. Hutchinson? to go up to Bering Sea first?

A. Well, it was about this purchase of Russia, you know; from Russia of the territory there, and his attention had been called to it by some gentleman and they thought it would be a good speculation; and they got acquainted with the governor of Alaska and they made a proposition to him to sell out and go shares. He gave in to it, and then Hutchinson started up, and I became acquainted with him and liked him first rate, and there was a young fellow by the name of Dinklespiel down at San Francisco, and he was going up and did go up, and came back with this schooner load of stuff, and when he got here it was in the spring, about March, and there was a snow storm, and we were taking account of this stuff they had brought down with them, and he

said it was so cold he was not going to bother about it any more, and he said, you take the account of it and I will take your figures, and I could have sold half the stuff there then. There was a lot of copper, and it was very valuable.

Q. Where did that stuff come from, the Pribilof Islands?

A. No; it came from Sitka.

Q. How did Hutchinson happen to go up there?

A. Well, he got acquainted in San Francisco with Clay and Bostwick? and one or two others that he met - I dont know how they got acquainted -- but they did, and they took a fancy to him and they got him up to Port Townsend, and there was a friend of mine at the store here and he was acquainted with some of those people in Victoria and he was back and forth quite a while, and then he wanted me to go up with him, but I did not have much faith in it, but, of course, If I had gone I could have gotten in as well as the rest.

Q. He had no idea then of going into the

fur seal business?

A. No, indeed; it was to buy this Russian-American stock they had there. It was an enormous stock of very costly goods, and they shared with Max Shutoff, this governor. When the treaty was made and the country was sold to the United States, then the governor advised the company to sell out their stuff and get out of it, and they had to sell it to the best advantage, and, of course, they could not sell it there as there was nothing but Indians.

Q. What did they do with such valuable goods at Sitka?

A. Well, they had the copper from this old Polcopski; her boilers were made of copper. She was a Russian vessel built by the Russians and was used for going amongst their trading posts, and she is now owned here on the Sound.

Q. How long ago did that happen?

A. Oh, it must have been - well, when was the Russian purchase? Well, it was a few years after that.

Q. He made this transaction just after the purchase was made?

A. Yes, sir. They got into it; it was

not Hutchinson alone you know.

Q. Yes, I understand -- Hutchinson, Clay and others.

A. Hutchinson, Clay, Bostwick, Liebes; and I know this Dinklespiel was up with them. Senator Miller of California got in then. Mr. Hutchinson would give these people stock in the company or anything to get their votes.

Q. When did that company begin to go into the sealing business?

A. Shortly after the purchase. I think there was a great lot of seal skins in the company's warehouse that he bought at the time, and they sold them at an enormous price. I don't suppose they gave over a dollar apiece for them, and probably sold them for \$10 or \$15.

Q. I want to get at the beginning of their sealing work?

A. Well, the purchase they made there I think was the starting of it, and Hutchinson saw at an early period the necessity of having the control of the Pribilof Islands, and there is where they started in to get the control, and the Russians had before then I think found that they were depleting the seals there -- their own

people were - and they put a stop to it for 7 years and would not allow them to kill any seals, and they all came back again, and they would all come back now in 5 or 6 years if the government would put a stop to it; because you cannot exterminate the seals. You can drive them from one place to another, and you can decimate them, but you cannot exterminate them any more than you can a cod fish. There was one gentleman here that I introduced to Mr. Riggs, who came from the Falkland Islands, and he was telling about the seal business down there. He was asking me something about the seal business, this gentleman was, and I told him, I can take you down to a man who can tell you all about them, and has probably just come from there - I forget his name - and he told this gentleman about the seals at Sand Point. The Chilian Government will not allow any American schooners to go there and seal and they have steamers come around there from Valparaíso and take the skins, and from there they are shipped to London. All we know about it is from the trade sales in London, as they are all designated where they come from.

Q. Does this man say they have increased there?

A. Yes, but they are not as plenty as they were. They tell about some schooners that went down from New London to certain islands off Cape Horn where they used to be very thick, and they went and took and put a lot of coal oil over there and set fire to it and it drove the seals off and they went off to another place. That was so they should not get any seals there. Well, they all came back again in a few years. Then, down in the south seas there is an enormous quantity of those seals, but people dont like to go down there, as it is a terrible place. This firm here has been down?

Q. When was that, long ago?

A. Oh, yes; a good many years ago. That was at the Shetland Islands, at a place called Seal Rock. I cannot recall who this gentleman was that was here.

Q. When was it?

A. It was only a few weeks ago.

Q. Was it not Townsend?

A. Well, I guess it was Townsend come to

think of it.

Q. You said a good deal before supper about the pups in this region and Willapa Bay region; through there.

A. Well, when you go down to Neah Bay you can make inquiries for yourself, and it is not at all unlikely that you can find some of those pups among the Indians.

Q. Those pups that they have are taken from the female after they kill her?

A. Yes.

Q. You said something about the pups being found sometimes?

A. Yes; and the evidence I got from the Indians at the time this gentleman was taking the evidence; they said they have seen a seal that had just given birth to a pup and they found the pup and killed the mother, and the blood was all around her as though it came from her; and the question was asked whether there was any milk in her udder, and they said, yes; and I said to the Indian, why did not you tell this before? and he said, why I never thought anything about it. But I know this gentleman had come here with a very prejudiced view that

there was nothing of the kind occurred, but after his investigation he ~~was~~ said there was no use for any one to be dogmatic; to say that these seals, because they had certain habits in one locality, that they are the same in all localities, because there were certain surroundings that would make alterations in their habits.

Q. I saw in a store to-day a fur seal skin nearly as long as that table, but not as wide, and the man said it was from one of those unborn pups. Would not that be very large?

A. Was it black?

A. Yes.

A. Well, they had stretched it then, because a young pup seal would not be bigger than a little kitten. They are about 12 to 14 inches long when they are born.

Q. The skin was pretty near as long as this table.

A. Well, it might have been a pup that was taken out from the womb of the mother, but was kept by the Indians until it had grown.

Q. How frequently do they get those live pups from the mother?

A. Oh; they get them every year. There is a gentleman here who was the captain of a sealing schooner who is a very reliable man, named Capt. N. T. Oliver. There are a great many people who think they know all about it, but when you come to question them, they dont know anything about it, because they have not observed.

Q. You dont know that the seals haul out anywhere at the mouth of the Straits?

A. No. They haul out on these kelp patches.

Q. Are they thick enough for them to rest upon?

A. Oh, Lod, yes! masses of them. It is pretty difficult for a steamer to ~~fi~~ force its way through.

Q. Are those kelp patches over rock bottom.

A. Yes.

Q. In how deep water would they sometimes be?

A. Well, all the way from 4 to 20 fathoms, and perhaps more than that. Then, the deeper water they are in the farther they will spread

out, and they will be almost an incredible length. You will be just in time to see these kelp patches at Neah Bay now.

Q. What do the Indians do with their skins?

A. Take them over to Victoria. I saw by the paper some went over last week, about 30 skins, and the Indians; why, if they had been allowed to sell during last month, the seals were just as thick as they could be.

Q. Well, they have the right at any time dont they?

A. Yes; but there has been very rough weather there. Oliver told me the weather was terrific. He was out 4 or 5 weeks and they only lowered their boats 2 or 3 days, and he said the seals were just as thick as they could be and would come right alongside the vessel, but they could not get them as the water was so rough, and he said he never saw any more seals than he saw this year. That is the schooner Elsie of about 56 tons.

Q. What do you think of the regulations regarding fur seals that are in force now?

A. Well, I dont like them at all -- dont

like any of these regulations and never have, because they dont give the poor man a chance. That is my opposition to it; they are just fattening up these monopolies in San Francisco, and the poor man gets no benefit at all.

These companies are not making the money they did, but they are just breaking the law in their case and nobody says a word. The law says, there shall not be any of those fur bearing animals killed in Alaska, and that includes the seals, but they are hunting them all the time. All different kinds of animals, bears, seals, fox skins, etc. That company buy anything they can get hold of.

Q. Canada now is claiming a great part of Alaska. You know they are trying to change their boundary line.

A. Well, I guess Americans will not stand that. When is our commission going up?

Q. They are having a survey made, but will not go up. The surveys are about finished. The commissioner on our side does not go up there at all.

A. I ought to have some office that I should be enabled to have all these things here,

and then give all the answers to the different fishermen that come. Now I have to do it all. I am not responsible; but I should be very much pleased if we could have this aquaria here, so that I could oversee it; that would be no trouble at all. If I had the money I would have it myself, but when anybody feels interested to go out here, and if you could get some person that wanted to start some new business to come out and try this kelp business, the whole thing can be tried right here in Port Townsend, and when they found the proper course to pursue, then would be time to put in the machinery.

Q. How far up the Straits of Fuca do the fur seals come in?

A. Oh, they have been killed up in Hoods Canal.

Q. Not in recent years?

A. Well, I heard of their being up there this last winter. There was, I remember, years ago, an incident which I reported to Prof.

Baird: There was a fur seal and its pup was swimming around and somebody shot the mother and the quartermaster of the cutter got the pup and took it aboard and they kept it and made a pet

of it, and when the cutter was in here they would let it go out and swim all about and when it got tired it would come back again; and finally, one day when it was swimming around the cutter was ordered off, and when they came back again the pup was gone; either lost or had been killed, and they lost it in that way. I think Capt. Tuttle will remember it.

Q. Do they come up here in any numbers, or just a few?

A. Sometimes quite abundantly they will come in, but they are not much like they are when they are going north. They come in after salmon, chasing the salmon up.

Q. What time do they come in?

A. In the spring.

Q. At the time when the schools are bound north?

A. Before they are going north. When they are playing around the Cape. You know they play around the Cape, clear down to the Columbia River. That is where our sealers go first, and they take them when they are coming up. They are circling around that way and

dont take a straight course up north. I remember one year when I was down to the Cape, it was in the month of January, and then the Indians killed quite a lot. They went out and killed all these fish right around Water Island; these seals in their canoes.

Q. These seals, if left alone, would probably go out again?

A. Oh, yes. There is plenty of food for them here. But that Hood's Canal; I want to see the time when the Albatross can go there and make a thorough survey of it.

Q. What fishes occur up there?

A. There are lots of black cod up there, and I think they breed up there; and the other kinds of common cod and the sebastichthes, and there is the red fish, Sebastoides; and they call them bass and rock cod and they call them anything but the proper name. The water is full of them, and lots of things that we dont know anything about. There is the sea switch, any quantity of them up there. The Albatross could get half a ship load of those fish.

Q. Do they grow very long there?

A. I have seen them 10 feet long. I

think I have sent some 8 feet to Washington.

Q. Did you send a lot once in a tin tube?

A. Yes, I sent them. I could do for \$50 a month and my necessary expenses, the same work that Prof. Baird gave me \$300 a month when I went out for him. Just enough to pay me for being interested.

Q. Have you any sealing schooners that belong here?

A. Only the schooner Elsie.

Q. The rest hail from San Francisco?

A. Neah Bay. The Indians have a number there.

Q. How large are they?

A. Oh, 40 or 50 tons.

Q. Are they navigated by the Indians?

A. Well, the Indians always take a white man along to navigate them when they go up north.

Q. How about the Duke of York?

A. The Duke of York was dead long ago.

Q. How about his son?

A. Oh, he has a schooner and cruises around here. He is a very smart Indians

Q. What do the Indians do besides sealing?

A. Halibut fishing and cod fishing, and all kinds of fishing and killing whales. Some years the Indians have killed 12 or 13 whales and the oil they get out of them brings them in a good deal of money. Of course, you cannot see them in their glory now because they have all gone away mostly, but there is enough there to give you an idea and you can see the natural history of the place. They have a new Indian agent there now, but I dont know his name, but Mr. Charles Eadie, who is telegraph operator and postmaster, I can give you a letter of introduction to him and he can introduce you to the Indian agent.

Q. Where does Eadie come from?

A. I dont know.

Q. What else can you tell us about the fur seal? Are there any other suggestions?

A. No; I only tell what I have had the experience myself. I dont say anything about the seals of the Pribilof Islands because I have never been there and have no right to make any ^{allusions} ~~alterations~~ to them at all. And I want to have this thing studied out. I have been trying for years to have a scientific investiga-

tion made of it, and you know the crude manner in which Elliott made that. He might just as well have called me a liar. I guess they dont take as much stock in him as they did at one time. In one of my reports to Prof. Baird I said that I thought it would be a very good plan if he would draw up some blank forms to be given to the captain of every vessel that cleared to go to Alaska or the South Seas, and let the collector of customs give a copy to every vessel when she cleared, and they shall be filled out by the captain of the vessel, that if they saw any seals on a voyage to put down the latitude and longitude and what observations there were, because captains have told me that they have seen these seals repeatedly on their voyages and they come to the conclusion that there must be soundings, perhaps 100 fathoms, and there was fish there and the seals were just as plentiful as they could be, and young ones with them. Now, if the thing had been followed and the data collected see what data we would have gotten in all these years, and the captains have frequently told me they have seen these seals, but they did not make any note of it, but if they had a

blank form they would put it down. You have no idea what a lot of information can be gotten out of these captains, provided you give them something a little outside of the regular book. You know the mate keeps the regular books, but the captain would attend to anything of this kind. There is a man here named Greenleaf, who has been employed by the government, and he has often talked with me about these seals, and he came from New London about a schooner that he was interested in, and he came out here and didnot know where she was and supposed she was lost, and all at once she turned up with 25,000 skins. He has remarked to me that any time that he went on the vessel if he only had had some little memorandum of that kind to call his attention, it would have been just a pleasure to him to have noted these things down.

Q. How about the oysters in this region?

A. The oyster is the same here as the native oyster in Shoal Water Bay, and it is found in greater abundance in Olympia and up Hood's Canal. Now, the State inspectors here found a great many oysters up on Hood's Canal.

when they were making their observations about the tides, etc., and those commissioners live here, two out of the three -- Mr. Garrish and Mr. Mutt, and they can give you all the information about the oysters, and I think, when you come up from Neah Bay I will introduce you to these gentlemen. But that is not -- we want the Albatross to go up there because she has a dredge, and all they know about is the oysters they saw at low tide, but there is a bigger oyster out in deeper water.

Q. Is there more than the one species here?

A. I don't know.

Q. Are these oysters entirely satisfactory to the people here?

A. Well, the oysters they bring here is all we get.

Q. What I mean is, would it be any object to introduce the eastern oyster here?

A. Oh, yes; you see they have been introduced down at San Francisco and they ship them up here.

Q. I have heard so many say that they don't

care for the eastern oyster here.

A. Those who have been accustomed to eating these oysters here; they have a peculiar flavor and they prefer them to the eastern oyster. They call it a copper flavor, but it has no copper flavor at all; it is bromine or something of that kind, but it is not unpalatable at all. They are very much like the English oyster. It has a strong saline ~~flavor~~ flavor the same as these do.

Q. What is an oyster cocktail?

A. Just an oyster put in a cup with pepper that is all, and a little vinegar.

Q. The oysters they bring in here come from Olympia do they?

A. Yes, I think so. They are shipped down from Olympia, and I don't know but some are shipped from Tacoma.

Q. They don't occur towards the mouth of the bay here?

A. Oh, no. They used to find them up here in Jemima, in the head of this bay, and one winter they got a purse seine and went out and also at Point Discovery Bay, but in small quantities, not enough to make it any object.

Q. Are they cultivated at Olympia at all?

A. I dont know how much cultivation there is. It is not in Olympia but in Mud Bay, and that is where they have been planted.

Q. Who is a good man here to see on the oysters there?

A. Well, I should see Joe Cates if I was going to see anybody, because he is a reliable man, and he can tell you which of these men is reliable.

Q. Do they supply enormous quantities of oysters here?

A. No; just only the local demand. Just a few sacks come down on the steamboat.

Q. Supposing eastern oysters were brought here, where is the best place here for them to be tried?

A. Well, that is a thing that I dont really know without looking into it a little more. I know when I lived in Shoal Water Bay that is a great oyster place, but around here I have not given my attention to it, and those who did go into it did not know what they were about and made failures of it every time. You have to cultivate oysters the same as you

would a field of potatoes or grain, and these people thought all you had to do was to throw them out and let them go, and every one will be eaten up with the star fish. If I was going to cultivate oysters I would make a stockade so that these fish could not get into it, and you must keep the starfish out. Geoduck clams they get right around here by digging down 5 or 6 feet.

Q. Is not the shells I have here the young of the geoduc?

A. It looks like it, but I cannot say for certain without comparing them. The Indians can tell the different varieties just as well as I can, and they have a different name for every variety. If the Prince of Wales was here he could tell us all about these shells and give us the Clallam Indian names.

Q. The cockerel they use a good deal here?

A. Oh, yes; the Indians use those themselves. They are not the kind they bring to market and sell to people. There is a big clam that is the most delicious eating of any I ever put in my mouth. It is a common clam but I forget what the scientific name is. A

great many people think they are not fit to eat. But this friend of mine, Drew, who came from Boston, he was always very fond of clams, and one summer I spoke to him about these big clams and he said they were not fit to eat, and I said, you dont know what is good; so I had some cooked, and just took the belly part and slit it right in half, and I had them nicely fried, and when we sat down to the table they put some before g him, and I told him to eat it, and he put some in his mouth and said, by George! that is the finest thing I have ever tasted; and I told him it was the clams he would not eat.

Q. They dont use many clams here in the market do they?

A. No; the squaws peddle them around.

Q. They go out and dig them with what?

A. They have a peculiar shaped sticks or an iron rod, these old squaw do, and just dig down and pry them up.

Q. That is hard work; the clams dont burrough much do they?

A. No, I dont think they do. I was over at the entrance of Grace Harbor, I suppose where the tide had washed off the bank and we went

along in a canoe and got a barrel or two of them, just picked them right up off the surface.

Q. Do you eat scallops?

A. Oh, my! dont say anything about scallops. We have the great northwestern pecten; I have seen them 8 inches across, and they are the most delicious eating!

Q. Coarse ribbed shells?

A. Yes. They are very fine, but we dont get any now; the Indians got so they charged 25 cents apiece for them.

Q. Why was that?

A. Because everybody wanted them at the boom times, and people would pay any price for them, and finally they run them up to 25 cents apiece, and when an Indian runs the price up he does not want to put it down again.

Q. Do they use any of the other mollusks here at all? Do they use the octopus at all? The devil fish?

A. Yes; the Indians do; the whites dont. I have eaten them. But they dont know how to cook them. But this Indian I had knew how to cook them so they would be quite tender and nice. I dont know what he did with it, but he

always managed to make it very tender. And it is the best stuff for bait; the Indians always use that for bait when they can get it.

Q. Do you have any skate in here?

A. Yes.

Q. Are they common?

A. Well, they are not very common.

Q. Dont see anything of them; dont use them in the market?

A. Oh, no. They are not caught - if they are caught accidentally they are just exhibited as curiosities, but nobody hunts for them. They can get other fish so much easier they dont want to bother with them.

Q. Do they use any of the sea snails here for food, the Natica?

A. Oh, yes; they eat them all.

m Q. Have you any specimens of that so as to know which kind it is?

A. Well, yes; all these little things that grow on the rocks here. You can get them off any of the rocks here at low tide.

Q. And the mussels, do they do anything with the mussels here?

A. Yes; the Indians eat them all the time, and the white people eat them when they can get them. There is a species grows down around Cape Flattery and they are very large -- have a yellow meat. The mol lusk that occur down at the Cape are fastened by their byssus to the rocks.

Q. That is the horse mussel is it not?

A. I dont know; it is a big mussel.

Q. Do they eat them down there at all?

A. Oh, yes; those mussels they get at the Cape everybddy likes them, the whites as well as the Indians, but I never heard them called horse mussels down there. There is nothing that would attach that name to them down there because it old times they did not have any horses. I know the horse-show crab is named from its appearance to a horse's foot, but they are not to be found here at all.

Q. Do they use any but the one kind of crab here?

A. No.

Q. They dont use these little crabs?

A. No. I think it is only the little crab

you saw at Joe Cates'. And those, what we call nodule crabs are very rare, and I guess nobody but me would bother to eat them, and I will eat anything that comes out of the salt water, to see if it is good.

Q. Do you know what the kelp crab is?

A. Yes; but there is a crab that we get down at the Cape which I call the tortoise crab; it draws its feet all in under its shell. That is a very pretty crab, but they never grow big enough to eat. They grow about 3 inches across.

Q. Will the Indians eat the kelp crabs?

A. No; I dont think they bother with anything different from these big crabs.

Q. Now, the shrimps here?

A. Oh, there is millions of them. We hauled a dredge from the Albatross at one time right opposite here at the mouth of Scow Bay and got 8 bushels of them, and yet I cannot get the fishermen to get them a net. Joe Cates says every time they haul the net there is more or less shrimps get entangled in it. There is nobody goes into it. There was a man wanted to start that business here and some of

these loafers around the wharves said there was nothing here and dissuaded him from it. I used to get some fossil crabs down at Neah Bay when I was stationed there. You will find the pebbles on the beach, get a roundish shape. I have sent those to the National Museum. I have got one specimen in my office. These crabs shed their shells every year, and those shells become filled with muddy water and that mud becomes packed in the shell, and they call them shell stones; and then it has been rolled around on the beach by the storms.

Q. Those crabs were the modern species?

A. Oh, yes; the same species as the present.

Q. Do the coal seams, any of them come to the surface around here?

A. Oh, yes; but they are small. The coal underlies the whole of this region, but it runs deep and the experts who have been at Nanaimo, etc., are unanimous about this being the same formation as that. Capt. Tanner was so well satisfied when he was here that he said he was astonished the people did not go after that coal.

Q. Did you ever see much of the eulachon?

A. Oh, yes.

Q. Did you ever see them use it for candles?

A. Oh, my yes! I wrote quite an article about that eulachon for the Smithsonian. Up around the Naas River is the place where you get that. They sell them in the markets in Portland and they call them smelts, and it is not very fat; then when it gets over to the Fraser it begins to get fatter, and they sell it in Victoria as the eulachon, and it is considered to be a very choice pan fish, and then you go farther north and up at the Naas River is where it obtains perfection. When it is cold it is just like lard, and when they are dry you can set fire to them and they will burn just like a candle.

Q. Do they use them up there much for burning?

A. No; I dont think they use them now; they used to in old times.

Q. What would they use the oil for?

A. Eating, the same as we eat butter. It is very nice when it is fresh, and very sweet. The black cod has an immense quantity of fat ,

and on Queen Charlotte Islands they extract this grease and use it in the same way, and I think the grease is identical in the black cod and the eulachon. The fat is entirely different from herring, salmon or mackerel fat. There was a gentleman in Victoria, when I brought this first lot, who was very fond of mackerel and salmon, but he could not eat it as it did not agree with his stomach, and I gave him a piece of that black cod and he said it agreed with him perfectly. Then Langley & Co., the chemists over there, they tried this eulachon oil as a remedy equal to cod liver oil, and it was found to be equally efficacious, but they were not the people to praise it and put it on the market as a yankee would. You could get thousands of gallons of it up in the Naas River. There is nothing nauseous about it as there is about cod liver oil, and it has the same effect as cod liver oil. Cod liver oil has a very fattening quality. I have known people with consumption go to Gloucester, on the coast of Massachusetts, and live on cod livers, fried, and they would get just as fat as could be, and they will tell you the oil in the liver when it is cooked that

way is more nourishing than when it is extracted. You take that, and then take the tongues and sounds and cook them and it will set all these invalids on their legs.

Q. Has any steps been taken in this region to put up sardines?

A. Yes; Joe Cates, he put up the ones I sent to Chicago, and he understands the business thoroughly, but he is a queer kind of a fellow and he was afraid to take a great quantity for fear he could not use them, and these fishermen are not going out to catch him half a barrel of fish. One of them told him he could catch him a hundred barrels of them if he wanted them, but he is afraid to handle them. The fish he has put up here has been proven to be a success.

Q. What fish did they get?

A. Anchovies. These anchovies are the ones we call sardines. The anchovies are in myriads all the way up the coast, but it attains perfection in Puget Sound, and south from here it is not worth picking up; they will not even use it for bait. They tried to put it up but it was not fat enough down there, but

here it is excessively fat, and put up as Cates did, with olive oil, Capt. Tanner and those gentlemen who tasted it at the World's Fair pronounced it a superior article and equal in every respect to the French varieties they had right alongside of it. We have tasted the fact that the fish are here and that when put up they are superior to any that are put up in Eastport or anywhere else in America and it is a pity they could not be put up in quantities here, because Joe could sell as many as he could put up. The Albatross people told him if he would have enough put up they would get all their supply from him when they came back, and he has not put up one.

Q. Where did he pretend to work?

A. Right in the next building to his store. He has everything perfect there for putting these fish up.

Q. What is the season for this fish here?

A. It is right now. There are millions in Port Discovery Bay, and I suppose they are in this bay here.

Q. It would be the summer season then, and perhaps some of the rest of the year?

A. Yes, sir; but we cannot tell until they make a test. Sometimes they have been so thick at Port Hadlock here in the bay that you could dip them up by the buckets full. Joe is a good clever fellow, but he has not the energy of some of those fellows down east, or he would drive ahead on this, as he has proved he can do the work.

The following is a list of sealing schooners at Neah Bay: James G. Swan, Deeahks, Columbia, Emmett Felitz, Puritan, C. C. Perkins, August, and Matilda.